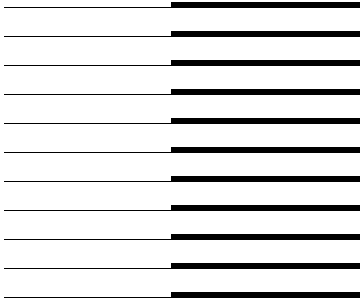


Océ Colour Copy 5.0



User Manual





Océ-Technologies B.V.

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Safety information

Warning: This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

This manual contains the following safety information:

Where applicable, cautions and warnings are used throughout this manual to draw your attention to safety precautions to take.

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Chapter 1

Getting started

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- *Registering the software (page 14)*
- *Configuring the scanner and the printer (page 15)*
- *Calibrating the copying system (page 21)*
- *Selecting user options (page 23)*
- *Making a simple copy (page 28)*



About Océ Colour Copy

Océ Colour Copy integrates high quality colour scanning technology with large format digital reproduction. Among its capabilities are:

- Direct copy size up to the maximum width of the scanner and printer
- Fine detail reproduction using modern scanning technology
- Automatic filter function for high colour fidelity
- Tiling functions
- Multiple copies from one input scan
- State of the art scan-to-file functionality
- Client-server printing architecture
- Easy to use graphic interface

Checking installation

Before you start Océ Colour Copy, check the following items:

- Packing list
- Hardware requirements
- Printer setup
- SCSI driver controller
- Dongle (hardlock) installation and registration printout (A4 sheet with multiple black and white squares)
- Océ Colour Copy software installation

Features in Océ Color Copy Lite

Some of the features described in this manual are **not** available in the Lite version. Those features are:

- Archive
- ICC-profile support
- Save filter presets
- Automatic size detection
- Continuous mode
- Accounting

- Raster Editor
- Multiple CPU support
- Save workspace settings
- Batch printing
- Output options (Second tab of the main window)
- Tiling (Third tab of the main window)

In addition to this, the Lite version only comes with one printer driver with no option for additional drivers.

In this User manual, the following icon indicates that the described function is restricted to Océ Color Copy Full.

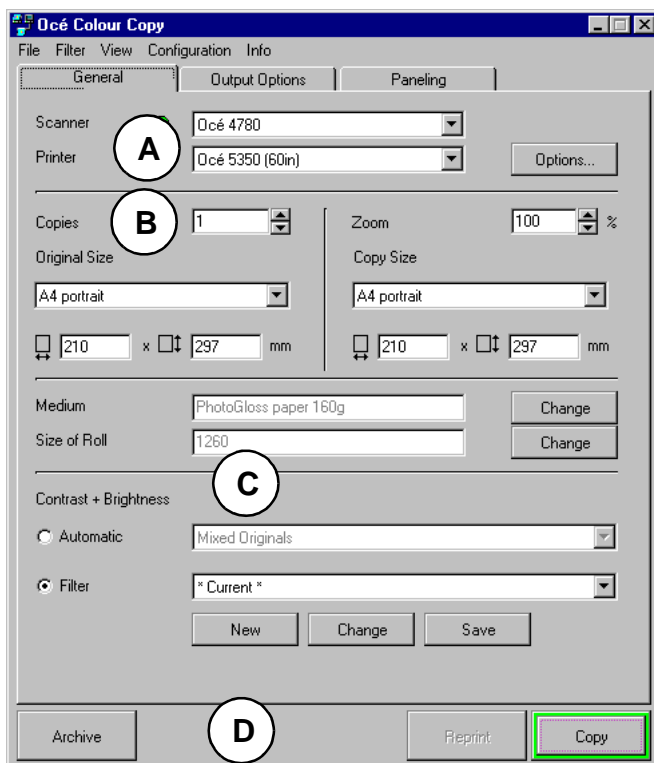


Starting Océ Colour Copy

Turn on your peripheral equipment such as scanner or printer, before you start the computer. If you forget to do this, you will have to restart the computer after you switch on the peripherals.

▼ To start Océ Colour Copy

- 1 From the Windows 'Start' menu, select 'Program'.
- 2 Choose Océ Colour Copy. The main window appears.



[1] Océ Colour Copy main window

Main window

- Scanner and printer connection, status light (A)
- General copy settings (B)
- Image brightness and contrast settings (C)
- Command buttons: 'Archive', 'Reprint', and 'Copy' (D)

Status light

The status light and 'Copy' button display different colours depending on the scanner's state of operation. Following the installation of Océ Colour Copy, the light colour shows black because there is no scanner or printer selected as yet.



Light colour	Scanner status
Green	operational
Black	does not respond
Yellow	warming up
Red	detects an error

You can make copies only when the copy button is green.

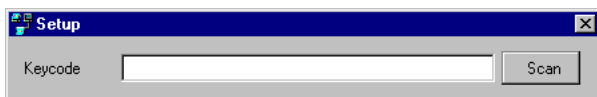
Note: *If you use a TWAIN scanner, the status light will always show green once the drivers are installed, even if the scanner itself is switched off or not connected at all.*

Registering the software

Prior to using Océ Colour Copy, you register the software by either scanning or by entering manually a 24-character key code.

▼ To scan the keycode

- 1 Start Océ Colour Copy.
- 2 From the 'Configuration' menu, choose 'Hardware'.
- 3 Insert the registration printout (provided with the software) into the scanner in the direction of the arrow.



[2] Software registration

- 4 Click 'Scan'.
- 5 Once the scanning completes successfully, click 'OK' to restart the computer.

▼ To enter the key code manually

- 1 Start Océ Colour Copy.
- 2 From the 'Configuration' menu, choose 'Hardware'.
- 3 In the key code box, enter the key code provided with the software.

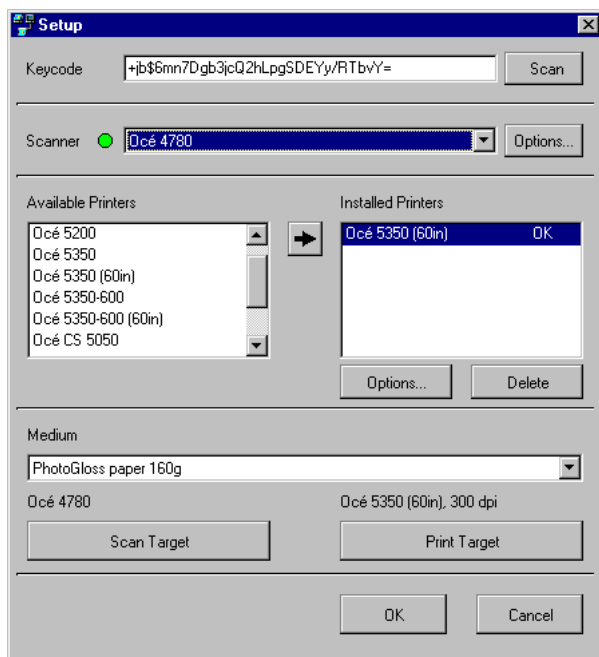
Note: *You must respect the upper and lower case letters.*

Configuring the scanner and the printer

Before making copies, you must indicate a scanner and a printer to use in your copying system. If there are several connected scanners and printers, you must identify the devices to use with the correct configurations.

▼ To access the configuration window

- 1 Start Océ Colour Copy. The main window appears.
- 2 From the 'Configuration' menu, select 'Hardware'. This dialog box appears:



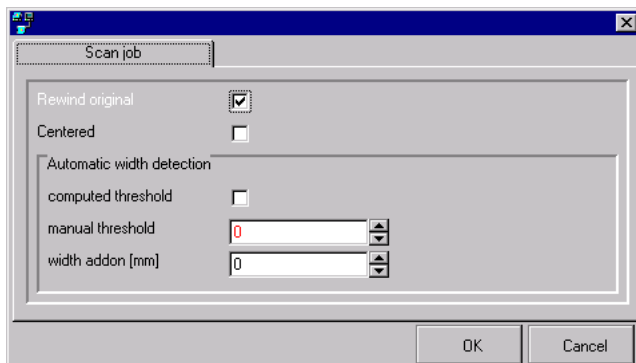
[3] Hardware configuration

Defining the Océ scanner

You must have a connected and powered on scanner to use with Océ Colour Copy.

▼ To select and configure the scanner

- 1 In the 'Scanner' box of the 'Setup' window, click the arrow to select a connected scanner from the list.
- 2 Click 'Options'. The following dialog box appears:



[4] Scanner configuration

- 3 Select 'Rewind original' if you want the original to revert to the starting position after scanning.
- 4 Select 'Centered' if your document is center-aligned in the scanner.

Note: Depending on the scanner you are using, the dialog above may differ.

Defining a TWAIN scanner

The manufacturers TWAIN drivers must be installed on the system. Make sure, that the scanner is connected and powered on.

▼ To select and configure the scanner

- 1 In the 'Scanner' box of the 'Setup' window, click the arrow to select a connected scanner from the list.
- 2 No additional options are necessary

Attention: *If you are using a TWAIN scanner, Océ Colour Copy launches the driver software provided by the manufacturer of the TWAIN scanner. There is no standard for the functionality a TWAIN driver has or has not to supply. TWAIN drivers from different companies most likely will look completely different and will offer completely different functionality. What is possible with one driver, might not be possible at all with another driver.*

Note: *Certain features within Océ Colour Copy are not possible with TWAIN scanners:*

- Scan to file
- Preview (TWAIN driver usually has its own preview)
- Setting of paper sizes (handled by the TWAIN driver)
- Use of automatic modes
- Use of the manual mode (can usually be done within the TWAIN driver)

Defining a printer

Once you have selected a scanner, you choose and configure a printer to use with Océ Colour Copy.



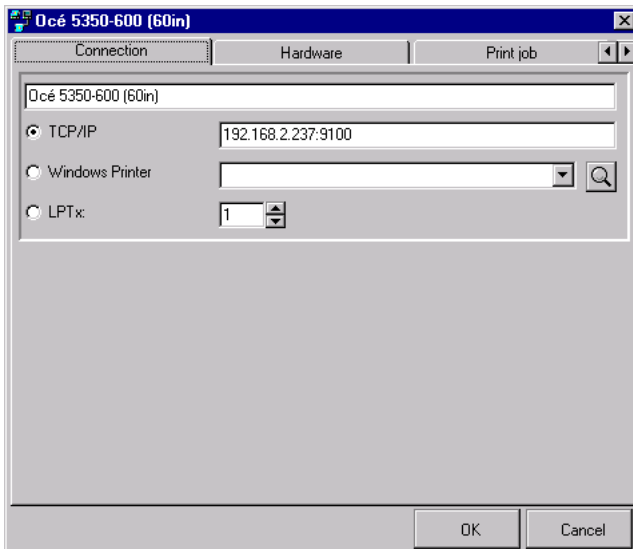
To select a printer

- 1 In the 'Available printers' box of the 'Setup' window, select a printer from the list.
- 2 Click the arrow to move it to the list of 'Installed printers'.



To configure a printer

- 1 Below the list of installed printers, click 'Options'.
- 2 From the 'Connection' tab, choose one of the following:



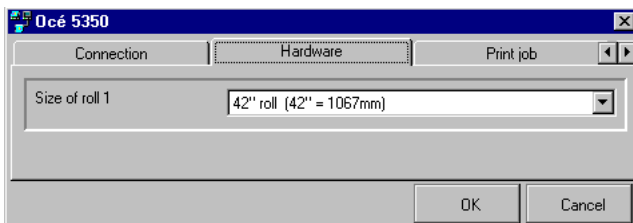
- For a network printer, select TCP/IP and enter the IP address and socket number. Click 'OK'.

Note: *The typical socket number for TCP/IP connected printers is 9100.*

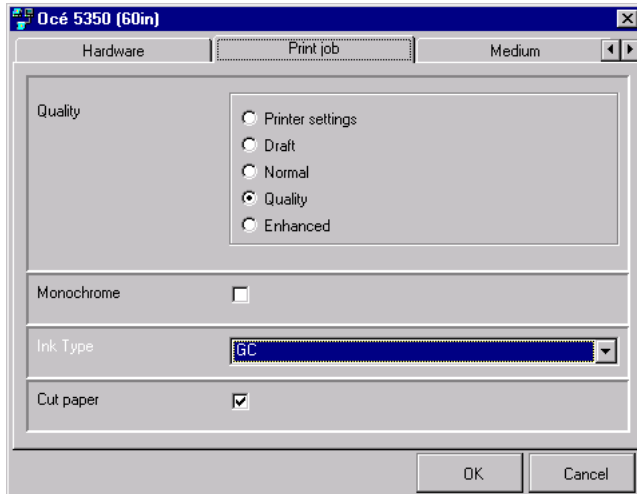
- For a windows printer, click the magnifying glass to search the network for a remote printer. (Depending on the size of your network, this may take several minutes.)
- For a dedicated printer, select 'LPT'.

Note: *The available connection types are sorted in the preference of their usage. The best way to connect the printer is the first option, the least recommended way is the last option.*

- 3 From the 'Hardware' tab, select the paper roll size and click 'OK'.

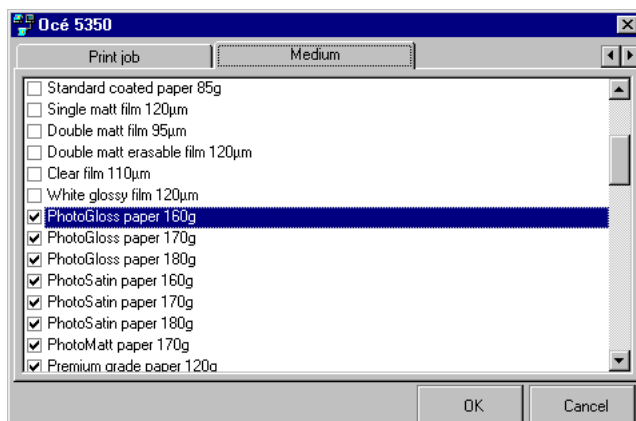


- 4 From the 'Print job' tab, select the applicable options and click 'OK'.



- 'Print quality' (quality settings are device-specific and not available on every printer)
- 'Monochrome' for black and white
- 'Ink type' - if applicable
- 'Cut paper' to enable or disable the cutter

- 5 From the 'Medium' tab, select the type of medium and click 'OK'.



▼ **To change the options of installed printers**

- 1 From the list of installed printers, select the printer for which you want to change settings.
- 2 Click 'Options'.
- 3 Make applicable changes to connection, paper roll size, print quality, or medium.
- 4 Click 'OK' to confirm.

▼ **To delete an installed printer**

- 1 From the list of installed printers, click to highlight the printer that you want to delete.
- 2 Click 'Delete' to remove the printer from the list.

Calibrating the copying system

With Océ Colour Copy, the calibration of the copying system depends on three components: the **scanner** type, the **printer** type (with corresponding resolution and - to certain extents - the different printmodes), and the **medium**. If one of these components changes or if you are using several printers, you must perform a calibration for each configuration in order to obtain optimal output results.

Note: *It is essential that the system is properly calibrated. Please take your time to do a calibration at least once. Only a good calibration results in good copies.*

When you add a device to the list of installed printers, the symbols **?! appear** next to the name of the printer. This indicates that you must perform a calibration of the system before you can use the configuration.

To carry out the calibration process, you print a computer-generated raster file, called the **target** on the selected printer using the selected medium. You then scan the resulting printout to produce a profile for the selected scanner-printer combination. This is called a closed-loop calibration.



To select the output settings

- 1 From the 'Setup' window, select the scanner and the installed printer. (See procedures above.)
- 2 Select the medium you want to use with the installed printer from the drop-down list.
Note: *For a complete list of specific media types supported by your printer, please consult your printer user documentation.*
- 3 Click the 'Options' button to go to the printer dialog. (See procedures above.)
- 4 Select the resolution and the quality level in the 'Print job' menu.



To print target

- 1 Place the media you have selected in the printer.
- 2 Click 'Print target'. The printer prints an approximate ISO-DIN A4 size target, which is mosaic of colours with an arrow in the center and surrounded by a white margin and black cutting lines.
Note: *Please check the label at the bottom of the target to see whether you have selected the right resolution and quality settings.*



To scan target

- 1 Remove the target printout from the printer.
- 2 Cut along the black lines. Do not cut off the white margins around the mosaic.
- 3 Insert the target in the scanner in the direction of the arrow. Insert the target without skewing, otherwise an error message appears and you will have to repeat the process.

Note: *Make sure that the ink has dried before you do this step to prevent smears on the scanner glass plate.*

- 4 Click the 'Scan target' button.
- 5 Once the scan completes successfully, the status 'OK' appears next to the printer in the installed printer list. This indicates that your copying system has correctly calibrated for the scanner, printer, and medium. You can start making copies.

Note: *The positioning of the target inside the scanner depends on whether you have selected centered in the scanner setup.*

Selecting user options

Once you have calibrated your copying system, you can select certain user options when working with Océ Colour Copy.

Choosing a scanning mode

Océ Colour Copy offers two scanning modes, ‘normal’ and ‘continuous’, to adapt to your copying needs.

- ‘Normal scan’ is the regular setting for single copies. When scanning completes, the original reverts to the starting position in the scanner.
- ‘Continuous scan’ is the setting to use when scanning multiple originals into the archive for post-printing using the batch mode (see ‘Making copies in batches’ on page 57).



To select a scanning mode

- 1 From the ‘Configuration’ menu, choose ‘Scan mode’.
- 2 Select ‘Normal scan’ or ‘Continuous scan’.

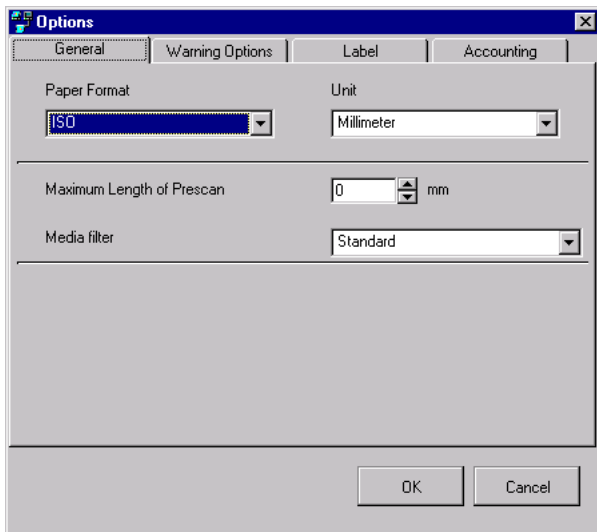


Setting preferences

When working with Océ Colour Copy, you can select the type of paper format, units, or warning messages to display.

▼ To set preferences

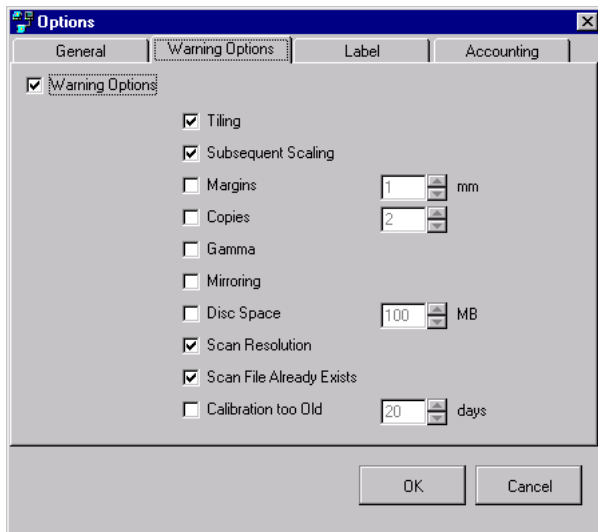
- 1 From the 'Configuration' menu, choose 'Preferences'. A dialog box appears.



[5] Options dialog box

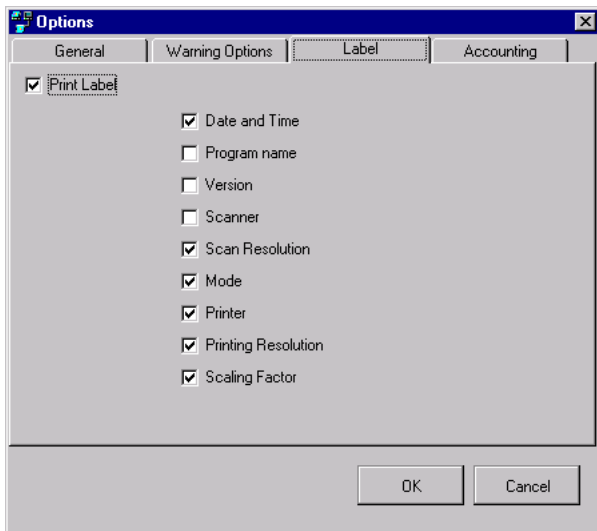
- 2 From the 'General' tab, select all applicable preferences from the following options:
 - In the 'Unit' box, select millimeter or inch.
 - In the 'Paper format' box, select ISO or **US**.
 - Select the 'maximum length of prescan' value, if you don't want to prescan an entire image (for example, an oversize drawing.) However, this may affect the 'Automatic' brightness and contrast setting and the preview mode.

- By changing the 'Media filter', you select the locally available Océ paper brands.

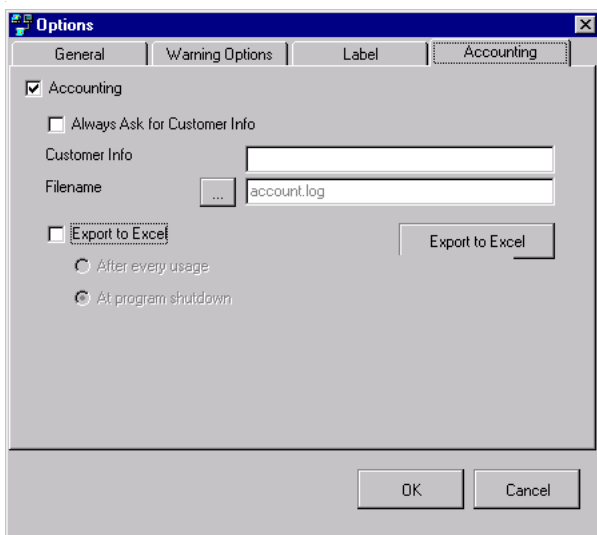


- 3 From the 'Warning options' tab, select the cases in which you want to have warnings show before copying, for outputs that involve:
 - tiling
 - subsequent scaling (printing from the archive with a scaling factor),
 - margins (exceeding a certain size in mm)
 - copy count (exceeding a certain number of copies)
 - gamma
 - mirroring
 - disk space (free capacity of your hard disk in Mb)
 - scan resolution (when using a fixed dpi value)
 - overwrite warning, if a file already exists in scan-to-file

- calibration too old (indicates a possible need to make a new calibration)



- 4 From the 'Label tab', select the type of information you want to have printed on the copy label, and click 'OK'.



Océ 5.0

- 5 From the ‘Accounting tab’, you can select how you want the accounting done. You can either export the accounting information to an ASCII text file or to an Excel file.
- Textfiles are continuously written. After each action in the program, one line is added to the file.
 - Alternatively, Excel files can be written at the program shutdown. Since the Excel-export takes some time, this is the preferable solution.
 - A customer name can either be given as a default or on a copy-by-copy basis. This gives you 4 choices:

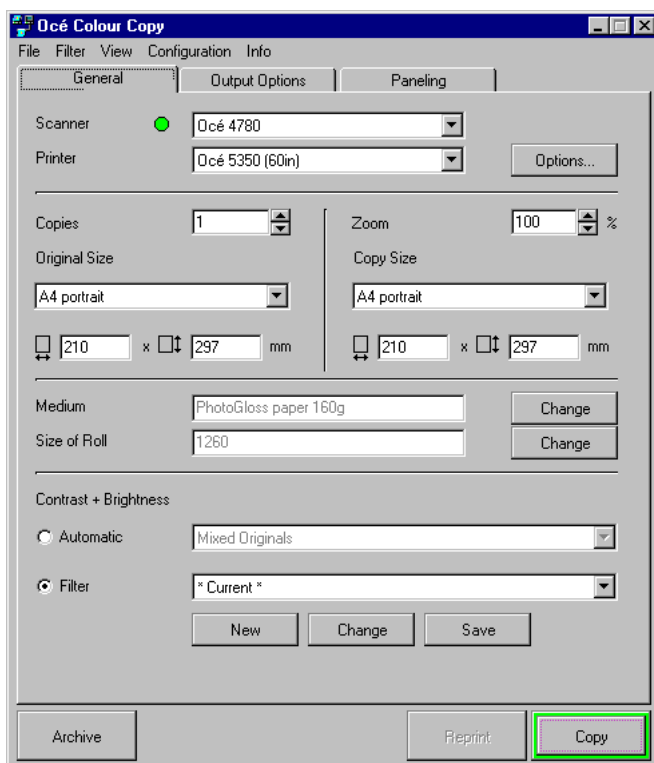
‘Always ask’ checkbox	‘Customer info’ editline	Result
On	Blank	Software asks for customer info before each copy
On	Filled out	Software asks before each copy, using the given default.
Off	Blank	No customer info is written to the accounting logfile
Off	Filled out	Always the same customer info is written to the logfile

[6] Different choices for the customer info

- 6 Click ‘OK’. A message displays before the copying process starts to let you change the output settings if necessary.

Making a simple copy

Once you have configured and calibrated your copying system, you can start making copies. You begin by selecting basic copy settings such as paper size, copy count, medium, and contrast and brightness from the 'General' tab of the main window.



[7] Océ Colour Copy main window

Selecting the paper size and copy count

When selecting paper size, you can use either ISO or US standard formats. (See ‘Setting preferences’ on page 24.)

▼ To enter original paper size and copy count

- 1 In the ‘Copies’ box, select the number of output copies.
- 2 In the ‘Original size’ box, click the arrow to enter a standard size for your original.
- 3 Alternatively, you can select:
 - ‘Retrieve width’ to have the software determine the width of the original. You must then enter the height manually.
 - ‘Auto width detection’. You enter the height manually.
 - ‘Auto height detection’. You enter the width manually.
 - ‘Auto size detection’
- 4 If you are making a 1:1 copy, the input paper size transfers automatically to the ‘copy size’ box. Alternatively, you can select a ‘Zoom’ factor to enlarge or reduce your output size with respect to your original image.



Selecting the medium

The ‘Medium’ box shows the medium that you have calibrated for the selected scanner and printer. If you wish to use another medium, check that you have properly calibrated it with the scanner and printer in use.

▼ To select medium and roll size

- 1 In the ‘Medium’ box, click ‘Change’ to display the list of available media.
- 2 Select the medium.
- 3 Select the roll size.

Setting contrast and brightness

For simple copies, Océ Colour Copy can automatically correct for brightness and contrast.

▼ **To set automatic brightness and contrast**

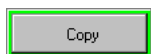
- 1 From the brightness and contrast options at the bottom of the 'General' tab, select 'Automatic'.
- 2 In the box next to the 'Automatic' option, click the arrow to select the type of original:
 - Unchanged (for fast copies without any particular quality)
 - Maps (maps without images, with colour preserving 'black point' correction)
 - Photos (photographs and printed raster images without text)
 - Lineart (technical drawings with sharp edges)
 - Mixed originals (printed originals with text and areas of colour)
 - CAD plots (original inkjet prints)

▼ **To apply a filter for brightness and contrast**

- 1 From the brightness and contrast options at the bottom of the 'General' tab, select 'Filter'.
- 2 In the box next to the 'Filter' option, click the arrow to select the filter to apply. If you are creating a new filter, see 'Creating filters' on page 44.

Making copies

You can start making copies when the scanner is operational and you have properly entered the copy settings (indicated by a green status light and copy button).



▼ **To make copies**

- 1 Insert your original into the scanner.
- 2 Enter the copy settings.
- 3 Click 'Copy' at the bottom of the 'General' tab. If you have connected the printer directly to the computer running Océ Colour Copy, the output copy prints out simultaneously on the printer.

Reprinting copies

Once you have checked a test copy for correct brightness and contrast, you can reprint it using different output options, or print the copy in several tiles.



To reprint a copy

- 1** Click the 'General' tab of the main window to adjust the basic parameters.
- 2** You can also adjust other parameters such as output options and tiling by clicking on their respective tabs. (See chapter 2, 'Using copy functions' on page 33).
- 3** Click 'Reprint'.

Chapter 2

Using copy functions

- *Selecting output options (page 34)*
- *Using the tiling function (page 37)*
- *The output preview (page 39)*
- *Saving copy presets (page 42)*



Selecting output options



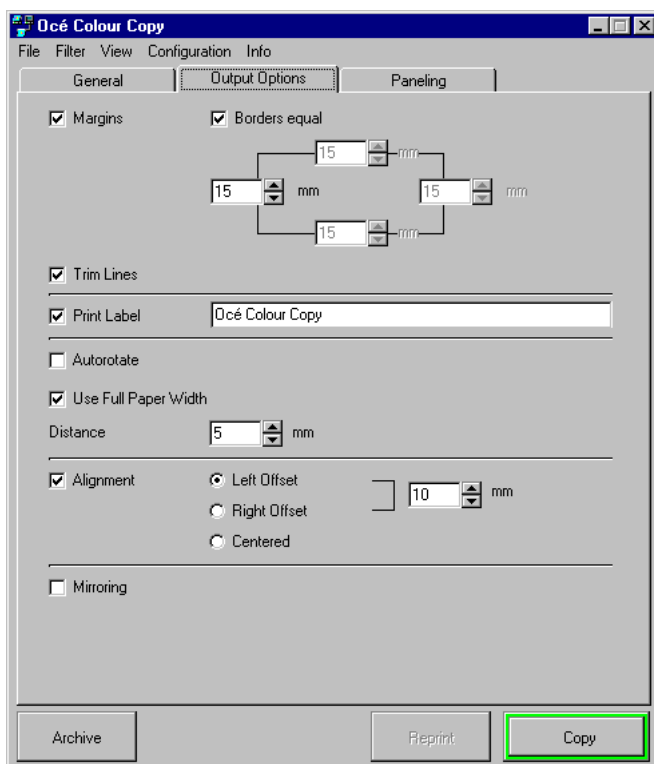
Output options allow you to customize your copy by setting margins, nesting, and labeling. These options can apply for a single copy, additional copies, or copy to an archive (file).

Note: *The same output options remain effective until you reset them.*



To access the output options window

- Click the 'Output options' tab. The following window appears:



[8] Output options window

Setting margins

You can set individual margin sizes for the left, right, top, and bottom edges.

Note: *You reduce the maximum print width when you add margins.*

▼ **To set margin size (in mm)**

- 1 From the 'Output options' tab, select the 'Margins' check box.
- 2 In the margin size box, set the size for the top, left, right, and bottom margins.
- 3 Alternatively, you can set the size for the left margin and click 'borders equal' to have equally sized margins.

Optimizing printing space

When you are making several copies, and at least two copies will fit into the available paper width, you can select the nesting function to print the copies side by side to optimize paper use.

▼ **To optimize printing space**

- 1 From the 'Output options' tab, select the 'Use full paper width' check box.
- 2 In the 'distance' box, set the space required between two prints.
- 3 Depending on the output size, select 'Autorotate' to rotate the print automatically to save media.

Labeling a copy

The 'Print label' option gives you the date, time, output device, resolution value, and scaling information on the margin of the copy.

▼ **To label a copy**

- 1 From the 'Output options' tab, select the 'Print label' check box.
- 2 Below this check box, enter any other useful information (optional).

Aligning a copy

You have the option of aligning your output copy to the left, right, or center on the paper.

▼ **To align a copy**

- 1 From the 'Output options' tab, select the 'Alignment' check box.
- 2 Choose 'left offset', 'right offset', or 'centered'.
- 3 In the alignment box, set the distance for the offset.

Mirroring a print

The mirroring option gives you a mirror copy of the original image.

▼ **To mirror a print**

- From the 'Output options' tab, select the 'Mirroring' check box.

Setting trim lines

The trim lines option gives you black borders as a cutting frame around your copy.

▼ **To set trim lines**

- From the 'Output options' tab, select the 'Trim lines' check box.

Using the tiling function

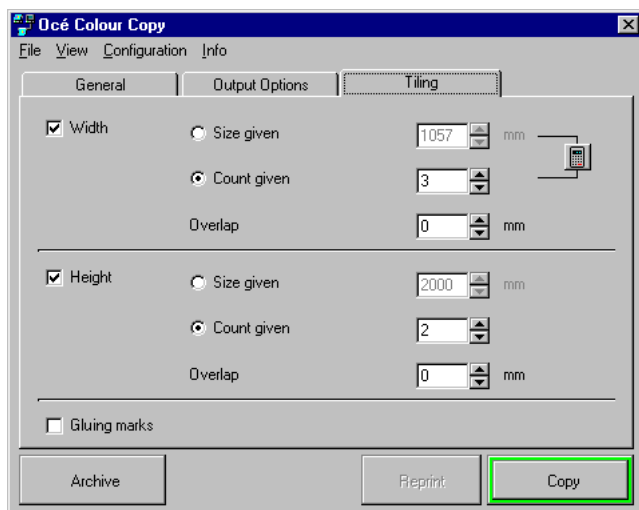


For large output format copies such as posters that exceed the maximum print width or the print length of a printer, you can print the copy in several different tiles and re-assemble them to produce a single large copy.



To access the tiling window

- Click the 'Tiling' tab. The following window appears:



[9] Tiling parameters window

Selecting the tile size

You can set the individual tile size by width or height, or both.

▼ To set the tile size

- 1 Select the 'Width' and/or 'Height' check boxes.
- 2 Enter the size of the individual tile, or the number of tiles to print. In the example of a 4000mm wide print:
 - 'Size given' (for example 900mm), the program prints four tiles of 900mm widths and one tile of 400mm.
 - 'Count given' (for example 5 panels), the program prints 5 tiles of 800mm each.

Setting overlap and gluing marks

To facilitate the assembly of the several tiles, you can add a space used to overlap the tiles. The overlap space is on the right of the panel width and at the bottom of the panel height.

▼ To add an overlap

- 1 In the 'Overlap' box, set the size (in millimeters) of the overlap space.
Note: *If you preset a maximum print width, the program reduces the individual tile size by the overlapping space.*
- 2 Select the 'Gluing marks' check box if you want to have a line printed to indicate the beginning of an overlap.

The output preview

A preview of the output copy shows on screen the partitioning of tiles, which allows you to select individual tiles for printing. In this screen you can also select a particular area of interest in the image to print.

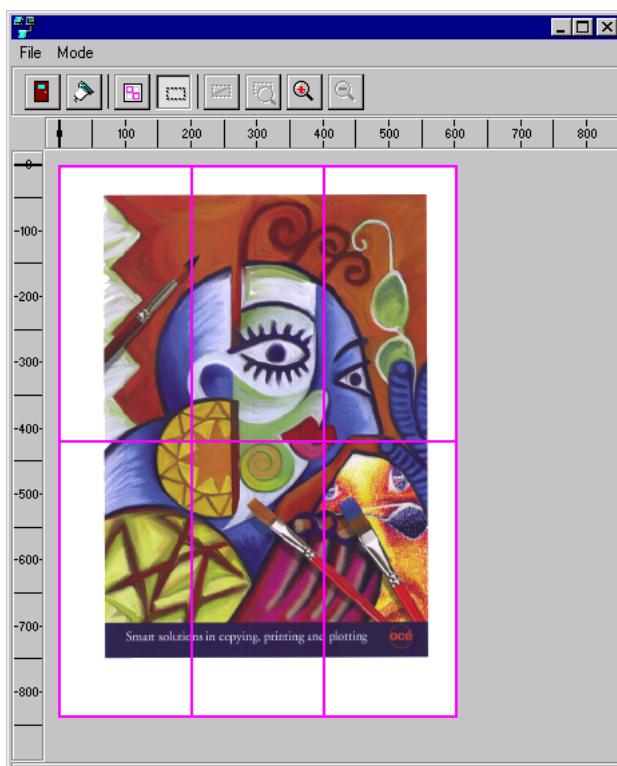


[10] Action-buttons in the preview window



To activate the preview screen

- From the 'View' menu, select 'Preview/on'.



[11] Output preview window

Working with tiles



▼ To select individual tiles (panels) for printing

- 1 At the top of the preview screen, choose the 'Select panels' button ('C').
- 2 Click on the tiles you don't want to print by clicking on them. The remaining tiles selected for printing have a red border around them.

▼ To change the number of tiles

- 1 From the 'Tiling' tab, make the necessary modifications. The changes are shown immediately on the preview.

Working with an area of interest

With this option, you can select a specific portion of the image to print.

▼ To select an area of interest

- 1 If the preview window is empty, click 'Rescan' ('B') to display the image.
- 2 Select 'Set area of interest/Cropping' (AOI - 'D'). A cross-hair appears on the preview image.
- 3 Click and pull on the rectangle to cover the area you want to select, and release. The area of interest that you have selected has a dotted rectangle.

▼ To move the area of interest

- 1 Click on the rectangle you have selected.
- 2 Drag the rectangle to the new location and release.

▼ To change the size of the area of interest

- 1 Position the cursor on any border of the rectangle until a double arrow appears.
- 2 Click and drag the border in any direction to resize the selected area.

▼ To zoom into the area of interest

- 1 Click 'Zoom to AOI' ('F'). Only the crop-area will be displayed now.
- 2 To zoom out, click the button again.

▼ To delete the area of interest Click 'Reset AOI setting' ('E').

Zoom into the preview

The preview allows for a one-level zoom.

▼ **To zoom into the preview**

- 1 Click on the 'Zoom In' button ('G'). An enlarged picture will be displayed at low resolution.
- 2 To get a finer image, click on 'Rescan' ('B').

▼ **To get back to the original image**

- 3 Click on the 'Zoom Out' button ('H').

Note: *These zooming functions can be combined with the 'Zoom to AOI' function.*

The roll preview

The lower part of the preview window shows a preview of how the image will appear on the roll. As soon as one of the output options is changed, the preview adjusts accordingly. You can see:

- Number of copies
- Additional paper-save copies
- Margins and distances
- Alignment
- Tiling

Saving copy presets

You can save the frequently used copy settings in presets. You store these presets in directory, and load them as necessary.

▼ **To save a copy preset**

- 1 Make the necessary copy settings and output selections.
- 2 From the 'File' menu, select 'Preset'.
- 3 Choose 'Save'. A dialog box appears.
- 4 Give the preset a name. The file extension for copy presets is *.PRE.

▼ **To load a copy preset**

- 1 From the 'File' menu, select 'Preset'.
- 2 Choose 'Load'. A browser appears.
- 3 Select the copy preset to use, and click 'OK'.

Chapter 3

Adjusting images

- *Creating filters to adjust image brightness and contrast (page 44)*
- *Reading the Histogram (page 48)*
- *Using the filter archive (page 51)*



Adjusting image brightness and contrast

Océ Colour Copy has a filter mode that allows you to make basic image adjustments to a scanned original prior to copying.

Creating filters

You create a new filter, or adapt an existing filter, to make the necessary corrections to the image brightness and contrast.

▼ To adjust image brightness and contrast using a filter

- 1 Insert the image or document into the scanner.
- 2 Make the necessary copy settings (see 'Making a simple copy' on page 28).
- 3 From the brightness and contrast options at the bottom of the 'General' tab, select 'Filter'.

▼ To start a new filter

- 1 In the 'Filter' box, click 'New'. The settings window appears with the following information:
 - A blank **histogram**, which will show the distribution of pixels over the lightness range once you have scanned a **preview**.
 - **black and white points**, **gamma** and **filter** settings
- 2 Make the necessary image adjustments.

▼ To change an existing filter

- 1 In the 'Filter' box, select the filter you want to change.
- 2 Click 'Change'. The settings window appears to display the lightness range, black and white points, and gamma settings for that filter.
- 3 Make the necessary image adjustments.

Making image adjustments

You can do the following image adjustments prior to copying, in the preview window (see ‘Working in the overview and zoom windows’ on page 47):

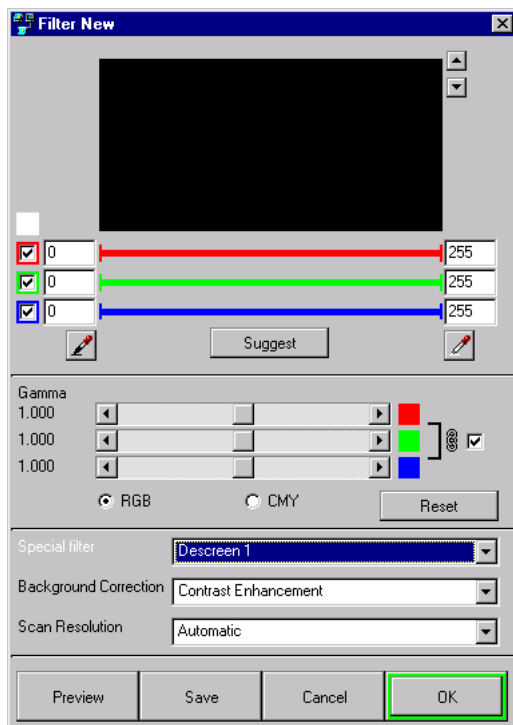
- Black and white points (see ‘Setting the black and white points’ on page 48)
- Gamma (see ‘Adjusting the gamma’ on page 50)



To make image adjustments

- 1 In the ‘mode’ box, click the arrow to select the type of original you are copying: With difficult originals we recommend working with special filter in order to achieve an optimal print quality.
 - Descreening combines the advantages of the two filters Soften and Sharpen. Therefore, these filters are best suited for rastered originals. Depending on the raster of the original either the special filter Descreen1 or Descreen2 can be more effective.
 - With the help of the soften filter the image sharpness of the whole image is reduced by smoothing the color transitions of clearly defined image lines and shaded areas. The functions Soften and Soften More are excellent for photos and only differ in the intensity of their effect.
 - If your image is blurry, you may use the sharpen filter to additionally enhance the image sharpness. This filter increases the contrast between bright and dark pixels and significantly enhances the edge sharpness for text and lines. With the filters Sharpen more and Sharpen most the intensity of the edge sharpness can be increased even more.
 - None (for fast copies without any particular quality)
 - Maps (maps without images, with colour preserving ‘black point’ correction) and Mixed originals (printed originals with text and areas of colour)
 - Photos (photographs and printed raster images without text)
 - Lineart (technical drawings with sharp edges)
 - Monochrome (for black + white)
- 2 In the ‘background correction’ box, select either:
 - ‘Contrast enhancement’ for printed originals, photos, and imported graphic files with low black and white point correction.
 - ‘Colour preservation’ for technical drawings, maps/mixed originals with strong black and white point correction.

- 3 From the combo box Scan resolution select the dpi value that you would like to scan with. The selection of the dpi values offered depends on the de-vice used and is different for each scanner type. We recommend accepting the standard value Automatic. Colorado uses the optimal dpi value for scan-ning, depending on the device and the scaling factor used. The setting Warp can be compared to the 'Draft mode' in printing and is intended for drafts



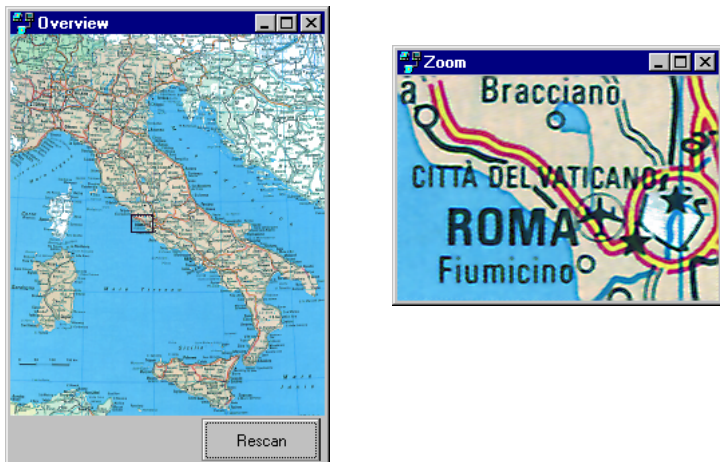
[12] Filter window

- 4 Click 'Preview'. The image scans, and displays in an 'overview' and 'zoom' window. The lightness range in the histogram displays.
- 5 Make the necessary corrections to the black and white points and gamma (see sections 'Reading the histogram' on page 48, 'Setting the black and white points' on page 48, 'Adjusting the gamma' on page 50).

Working in the overview and zoom windows

- The overview window shows the original in its entirety.
- The zoom window focuses on a scan area delineated by a small square in the overview window.

When you modify a colour parameter such as gamma or black and white point, the zoomed area within the dotted outline rescans automatically using the updated values.

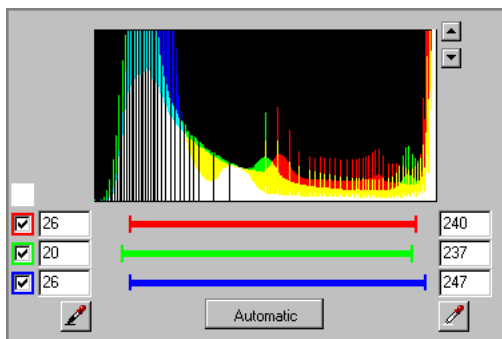


[13] Overview and Zoom windows

- ▼ **To change the position of the zoom area**
 - Click on the dotted outline in the overview window and drag to a new position.
- ▼ **To resize the overview window**
 - 1 Click on the window border and drag to resize.
 - 2 Click 'Rescan' in the overview window to get an adjusted image size.
- ▼ **To resize the zoom window**
 - Click on the window border and drag to resize. An updated zoom area automatically displays in the newly sized window.
- ▼ **To rescan the entire image using updated values**
 - Click 'Rescan' at the bottom of the overview window.

Reading the histogram

- The **x-axis** shows the brightness values, with the left extremity representing low intensity values (black) and the right extremity representing high intensity values (white).
- The **y-axis** shows the frequency of occurrence for each red, green, and blue (RGB) value.



[14] Histogram

▼ To magnify the histogram

- Click on the up or down arrow at the top right corner of the histogram.

Setting the black and white points

You set the black and white points for optimal contrast adjustment. This function determines two points for each colour channel (red, green, blue.) It interprets all colour values below the first point as black. Similarly, it interprets all colour values above the second point as white. This ensures that the scanned original contains a pure white without any gray haze, as well as a pure black with full saturation.

The range of values located between the two points get transformed over the full contrast range from 0 to 100% to obtain an optimal colour reproduction.

Below the histogram, three colour bars represent the RGB values. The length of the bars represents the active range of the contrast filter. The empty area to the left of each colour bar shows the range that is full black, while the empty area to the right of each colour bar represents the range that is pure white.



To set the points automatically

- Click the 'Automatic' button below the colour bars. For most uses, it is sufficient to let the program make the contrast adjustment.



To set the points manually (for all colours)

Note: *The black point (left extremity) moves using the left mouse button (normal click), and the white point (right extremity) moves with the right mouse button (right click).*

- 1 Select the 'Red, Green, Blue' check boxes to move the three colour bars simultaneously.
- 2 Click and drag the bars to set the black point.
- 3 Right-click and drag the bars to set the white point. The effect shows immediately in the zoom window.



To set the points manually (for each individual colour)

- 1 Select the check box to the left of the colour for which you want to set the white point. Work on one primary colour (red, green, blue) at a time.
- 2 Right click to drag the white point to each respective colour's peak value on the histogram (where it is most pronounced). The activated colour appears in the square box above the colour check boxes.
- 3 Repeat the step above to set the black point (using the normal click). We recommend setting the black point to the same value for each primary colour.



To use the eyedropper to set the points

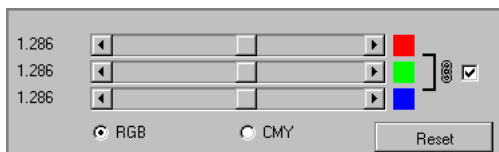


Note: *Below the colour bars, you find an eyedropper icon on the left for the black point, and another eyedropper on the right for the white point.*

- 1 Click the black eyedropper icon.
- 2 Choose a dark area in the image to use as reference for the black point by clicking and drawing an outline around the sample area.
- 3 The program calculates an average colour value for the sample area, and assigns that value to the black point. The image automatically updates using the corrected value.
- 4 Click the white eyedropper button.
- 5 Repeat step 2 and 3 for the white point.

Adjusting the gamma

When you make a gamma correction, you increase or decrease the brightness, or colour intensity, of the values between the black and white points, which remain constant. In setting the gamma values, you can choose to work with **RGB** (red, green, blue) or **CMY** (cyan, magenta, yellow).



[15] Preview window: gamma settings

- ▼ **To choose a colour space**
 - From the gamma settings, select 'RGB' or 'CMY'.
- ▼ **To change gamma values simultaneously**
 - Select the check box to the right of the gamma values.
- ▼ **To change gamma values separately**
 - 1 Clear the check box to the right of the gamma values.
 - 2 Click on the slider to set the colour value for each colour.

Note: *The gamma value is set to a standard of 1.000 for all colours.*
 - 3 If necessary, click 'Reset' to revert to the initial gamma values.

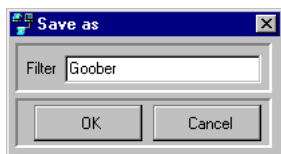
Working in the filter archive

UCC 5.0

Once you have made detailed colour corrections, you can save your settings and reuse them on a similar type of original. This saves you from restarting a entire process of colour correction for each original.

▼ To save the filter

- 1 Make the necessary adjustments to gamma and black and white points (see 'Making image adjustments' on page 45).
- 2 Once the filter is satisfactory, click 'Save'. A dialog box appears.

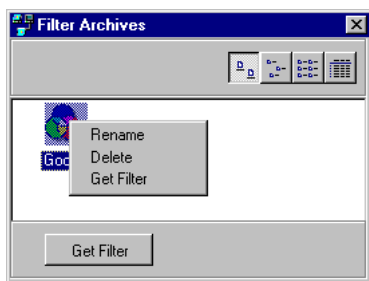


[16] Filter dialog box

- 3 Give the filter a new name, and click 'OK'.

▼ To delete a filter

- 1 From the 'Filter' menu, select 'Filter archive'. A dialog box appears.



- 2 Select the filter to delete.
- 3 Right-click and select 'Delete'.

▼ To retrieve a filter

- 1 From the 'Filter' menu, select 'Filter archive'. A dialog box appears.
- 2 Select the filter to use.
- 3 Right-click and select 'Get filter'.
- 4 Click 'OK' to copy using the filter settings.



To copy using a filter

- 1** From the brightness and contrast settings at the bottom of the 'General' tab in the main window, select 'Filter'.
- 2** Click the arrow to select the filter to use.
- 3** Click 'Copy'.

Chapter 4

Using archiving functions



- *Archiving copies (page 54)*
- *Copying in batches (page 57)*
- *Saving copy presets (page 58)*



Archiving copies



The archiving function lets you save the current scan in a special directory for printing individually or in batches at a later time. You can also scan image files directly into the archive for post-printing. You can create as many archives as your disk space allows.

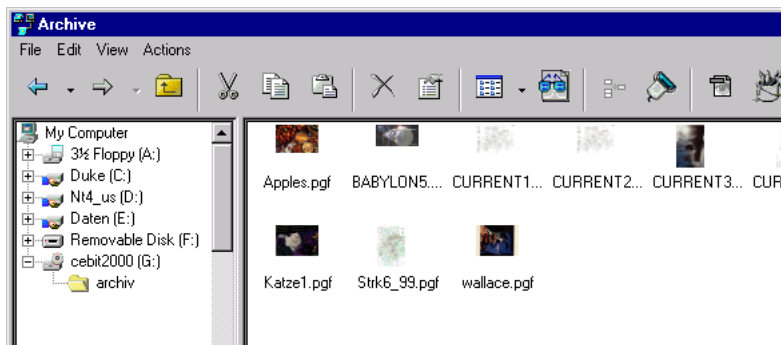
Note: *Before saving a scanned image to the archive, check that you have the correct brightness and contrast settings. Once the image is in the archive, you cannot readjust these settings unless you make another scan.*

Attention: *The look and feel of the archive has fundamentally changed since Océ Colour Copy 4.0 and older!*

Opening the archive window

▼ To open the archive window

- From the 'General' tab of the main window, click 'Archive'. The following dialog box appears.



[17] Archive window

Note: *The archive window has two different modes, showing either two or three sub-windows. The archive always comes up with the layout it was last used in. Therefore your screen might look different than printed here.*



To display a short-cut menu

- 1 Select a file and right-click. A short-cut menu appears.
- 2 From this menu, you can **rename**, **delete**, **copy**, **move**, **print**, **view**, or **rotate** an archive file.

The archive buttons



Flip the settings window



You can enable or disable a third settings window

- 1 In the archive window, click on 'Additional'
- 2 To close the third window, click on the same button again.

Scanning files into the archive



To scan directly into the archive

- 1 Insert a document into the scanner.
- 2 In the archive window, click 'Scan' ('D'). The main window displays a selection of copy settings.
- 3 Set your copy settings.
- 4 Click 'OK' to scan the document into the archive.
- 5 In the archive window, right-click the file to rename it.

▼ **To scan documents continuously into the archive**

- 1 From the 'Configuration' menu, select 'Scan mode'.
- 2 Choose 'Continuous scan'.
- 3 Click 'Archive' to open the archive dialog box.
- 4 Insert the document into the scanner.
- 5 Click 'Scan' ('D'). The general copy settings window appears.
- 6 Select the input size of the original.
- 7 By default, Océ Colour Copy names each scanned image successively as 'current 1', 'current 2', 'current 3', etc. Right-click to rename the file.
- 8 As each scan completes, a prompt appears to 'insert next...'
- 9 To stop scanning, click 'Cancel' at the end of the scan.

Printing from the archive

▼ **To print a file from the archive**

- 1 From the archive window, select the file you want to print.
- 2 Right-click and select 'print' ('J'). The Output options window opens to let you choose copy settings.
- 3 Click 'OK'.

Note: *You cannot modify brightness and contrast settings when printing from the archive. You must rescan an image to modify these settings.*

Moving or copying files between archives

▼ **To move or copy files between archives**

- 1 In the 'General' tab, click 'Archive' to open the first archive window.
- 2 Use Windows-Explorer like functionality to move or copy files among different folders.

Rotating files

▼ **To move or copy files between archives**

- 1 In the 'General' tab, click 'Archive' to open the first archive window.
- 2 Click on the file you want to rotate.
- 3 Select the rotating tool ('G') and chose among 90, 180 and 270 degree rotation

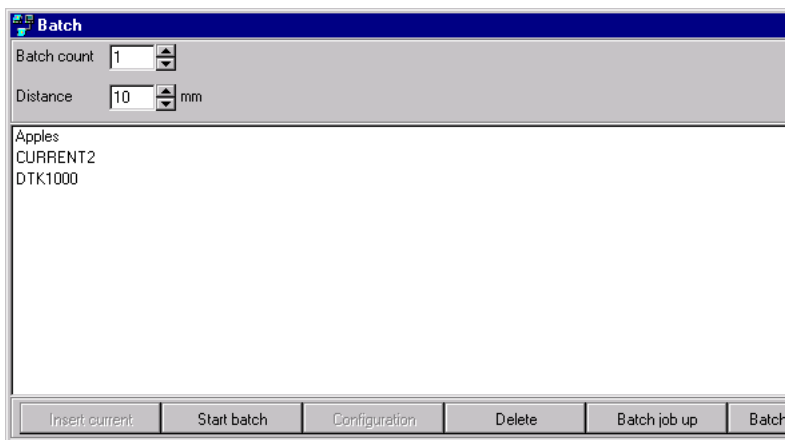
Making copies in batches



The batch mode allows you to print multiple scans from the archive, using copy settings and filters that you have selected for each document.

▼ To copy in batches

- 1 In the 'General' tab, click 'Archive'.
- 2 From the archive window, select one or more files to print (by using shift+click, Ctrl+click, or by drawing a rectangle with the cursor around the selected files.)
- 3 Click 'Batch' ('H'). The following dialog box appears:



[18] Batch mode dialog box

- 4 Click 'Configuration' to select the copy settings for each file, such as the number of copies, output options, or tiling.
- 5 To add the current or last scanned file to the batch, click 'Insert current' (optional).
- 6 Set the batch count (number of batches to print.)
- 7 Set the distance between copies.
- 8 Click 'Start batch' to begin copying.

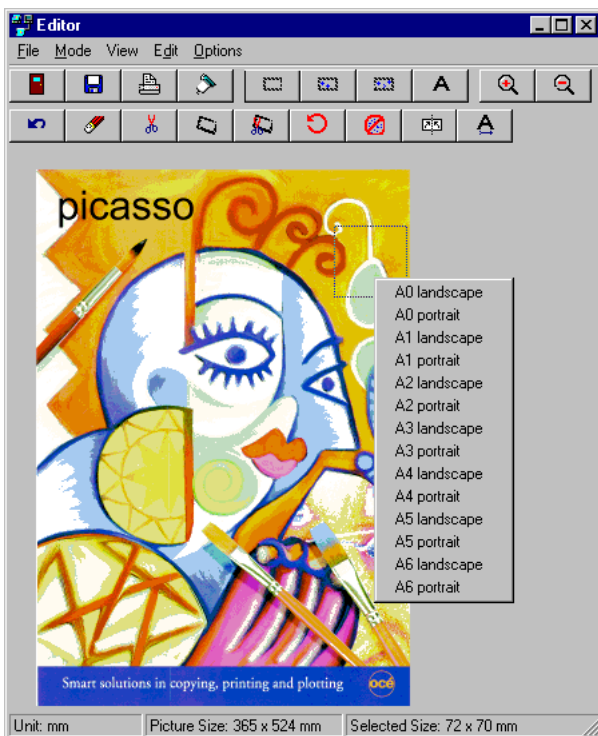
▼ To change the print order of files in a batch

- 1 Select the file.
- 2 Click 'Batch job up' or 'Batch job down'.

Editing archive images

With the image 'Editor', you can make edit images in the archive, such as:

- Deskew
- Despeckle
- Insert text
- Rotate, mirror, crop



[19] Image 'Editor' window

Starting the ‘Editor’

You can either start the Editor from the image archive or from the Océ Colour Copy main window.

▼ **To start the Editor from the image archive**

- 1 In the ‘General’ tab, click ‘Archive’.
- 2 In the image archive window, select the file to open in the Editor.
- 3 Right-click the file, and select ‘Editor’.

▼ **To start the Editor from the main window**

- From the ‘File’ menu, select ‘Editor’.

▼ **To scan an image into the ‘Editor’**



- 1 Insert the document into the scanner.
- 2 With the ‘Editor’ window open, click the ‘Scan’ button on the toolbar. The image scans and displays in the window.

Viewing the image

For performance reasons, the scanned image displays in black and white by default. You can change this display option to suit your image:

- Scale dark
- Scale middle
- Scale median

▼ **To select the display option**

- 1 From the ‘Options’ menu, select ‘Scale to gray’.
- 2 Choose the display option.

▼ **To zoom in the image**



- Click the zoom buttons on the toolbar.

Cancelling an editing change

You can undo only one level of image modification.



To cancel an editing change



- Click the 'Undo' button on the toolbar.

Rotating and mirroring the image



To rotate the image

- 1 From the 'Options' menu, select 'Rotate'.
- 2 Choose the rotation angle. This value becomes the default value assigned to the 'Rotate' button on the toolbar.
- 3 Click 'Rotate'.



To mirror the image



- Click the 'Mirror' button on the toolbar.

Despeckling the image

Despeckling allows you to remove unwanted spots from a background. You can select either fine or coarse despeckling.



To despeckle the image

- 1 From the 'Options' menu, select 'Despeckle'.
- 2 Choose 'Fine' or 'Coarse'.
- 3 Click the 'Despeckle' button on the toolbar.



Editing an image selection



To mark a selection area

- 1 Click the 'Mark area' button on the toolbar. A cross-hair appears.
- 2 Click and drag to draw an outline around the selection area.
- 3 With a marked selection area, you can make the following manipulations, by clicking on the corresponding button on the toolbar:





To crop the selection



- 1 Select the area to crop in the image.
- 2 Click the 'Crop' button on the toolbar.



To delete the selection



- 1 Select the area to crop in the image.
- 2 Click the 'Delete' button on the toolbar.



To insert text in a selection



- 1 Select the area in which you want to insert text.
- 2 Click the 'Text mode' button.
- 3 Click the 'Insert text' button. A cursor appears inside the selection area.
- 4 Type in your text. The font size of your text depends on the size of the selection area.
- 5 Click the 'Mark area' button, to exit the text mode.



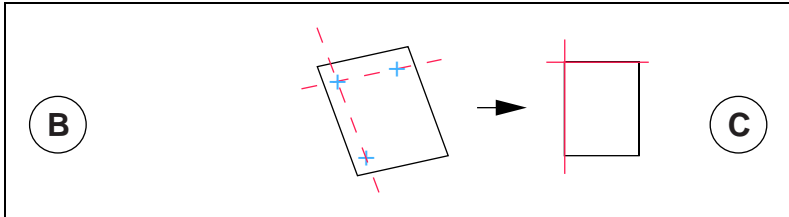
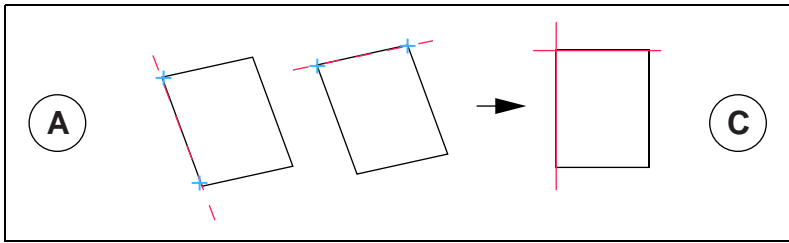
Note: *To delete the text you have just inserted, click the 'Undo' button. Keep in mind that only one level of 'Undo' is possible in the 'Editor'.*

Deskewing the image

If an image was skewed during scanning you can straighten it with the 'deskew' function.

Deskew 2 points (A) straightens the image along two vertical points or two horizontal points.

Deskew 3 points / crop (B) straightens the image along three vertical and horizontal points



▼ **To deskew the image along 2 points**



- 1 Click the 'Skew 2 points' button on the toolbar. The cursor becomes a cross-hair on the image.
- 2 Position the first point on the image, and click.
- 3 Position the second point on the image, and click.
- 4 Click the 'Skew' button on the toolbar. The image realigns along the selected points (C).



▼ **To deskew the image along 3 points**



- 1 Click the 'Skew 3 points' button on the toolbar. The cursor becomes a cross-hair on the image.
- 2 Position the first point on the image, and click.
- 3 Position the second point on the image, and click.
- 4 Position the third point on the image, and click.
- 5 Click the 'Skew' button on the toolbar. The image realigns along the selected points (C).



▼ **To deskew and crop the image**



- 1 Deskew the image along 3 points.
- 2 Click the 'Skew and crop' button on the toolbar. The image realigns along the selected points, and discards any extra borders (C).

Printing the image



To print the image from the Editor

- 1 Click the 'Print' button on the toolbar. The Océ Colour Copy main window appears.
- 2 Make your copy settings (see 'Making a simple copy' on page 28).
- 3 Click 'Copy' at the bottom of the 'General' tab.

Chapter 5

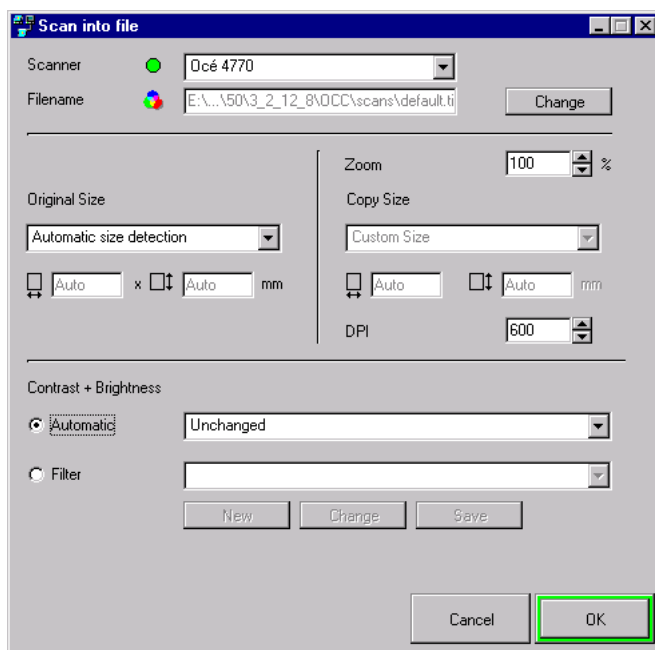
Scan into file

- *Filename and file format (page 67)*
- *Making scans (page 68)*



Making a scan into a file

Once you have configured and calibrated your copying system, you can also start to scan into different file formats. You begin by selecting 'Scan into file' from the main menu. The user interface of the program is then replaced by a specialized one for scan into file.



[20] Scan into file main window

Selecting the scanner

In the field Scanner the installed type of scanner is displayed. The current state of operation the scanner is in is given by the color of the LED (green = operational, yellow = warm-up phase, red = Scanner reports a fatal error, black = a connection to the scanner could not be established).

Selecting the filename and file format

Under Filename you find the path of the standard file name Default and the current file format as the extension. If you do not enter a filename, by default the scan is saved under Default. If a file with this name and the same fileformat (extension) already exists in this directory, the data will be re-placed and will therefore not be available any more. To enter original paper size and copy count

- 1 With the menu field Change directory and filename you will get to the win-dow Save as. Under Save as select a directory or an external device, where the file is supposed to be saved. Now you only have to enter the desired filename. The type of file (e.g. pcx, tif) is automatically added as an extension to the filename. If you then confirm with OK, the directory with the filename is transferred to the scan window
- 2 For PCX formats with 256 colors there is the additional option to create a color chart. You can choose between a Standard chart and a Calculated chart. When choosing the calculated chart, the colors of the input are used for calculation. A pcx file and a pal file are saved in the scan directory. The pal file contains the chart of color range and can be read by external graphic programs (e.g. Paint Shop Pro).

Selecting the sizes and resolution

When selecting sizes, you can use either ISO or US standard formats. (See 'Setting preferences' on page 24.)



To enter sizes and resolution

- 3 In the 'Original size' box, click the arrow to enter a standard size for your original.
- 4 Alternatively, you can select:
 - 'Retrieve width' to have the software determine the width of the original. You must then enter the height manually.
 - 'Auto width detection'. You enter the height manually.
 - 'Auto height detection'. You enter the width manually.
 - 'Auto size detection'
- 5 If you are making a 1:1 copy, the input paper size transfers automatically to the 'copy size' box. Alternatively, you can select a 'Zoom' factor to enlarge or reduce your output size with respect to your original image.
- 6 Select the resolution in which you want the file scanned. This can be any resolution.



Setting contrast and brightness

Océ Colour Copy can automatically correct for brightness and contrast.

▼ **To set automatic brightness and contrast**

- 1 From the brightness and contrast options at the bottom, select 'Automatic'.
- 2 In the box next to the 'Automatic' option, click the arrow to select the type of original:
 - **Unchanged** (for fast copies without any particular quality)
 - **Maps** (maps without images, with colour preserving 'black point' correction)
 - **Photos** (photographs and printed raster images without text)
 - **Lineart** (technical drawings with sharp edges)
 - **Mixed originals** (printed originals with text and areas of colour)
 - **CAD plots** (original inkjet prints)

▼ **To apply a filter for brightness and contrast**

- 1 From the brightness and contrast options at the bottom, select 'Filter'.
- 2 In the box next to the 'Filter' option, click the arrow to select the filter to apply. If you are creating a new filter, see 'Creating filters' on page 44.

Making scans

You can start making scans when the scanner is operational and you have properly entered the settings (indicated by a green status light and OK button).

▼ **To make scans**

- 1 Insert your original into the scanner.
- 2 Enter the settings.
- 3 Click 'OK' at the bottom of the 'Scan into file' window.

Appendix A

Glossary



Adaptive thresholding

Advanced 2-dimensional adaptive thresholding estimates the background gray level in a window area around each pixel. The difference between the actual pixel value and the background is then compared to the adaptive settings to determine if a pixel is thresholded as a black pixel or a white pixel.

Additive colours

The primary additive colours are red, green, and blue, which represent the three main components of white light. When mixed in equal portions, they produce white. When used individually or together, these primary colours can mix to create nearly all colours. Additive colours are used in scanners and graphic displays.

Bitmap image

A computer file of a lineart image that had been scanned with a scanner. Bitmap refers to the pattern (or map) of bits that represent either black or white.

Black point

The black point adjustment determines the amount of shadow detail in an image. Ideally, it is best to set the black point at a value where the darkest part of the image will have zero detail.

Blueprint

A process of photographic printing used mainly for copying architectural and mechanical drawings. It produces blue lines on a white/bluish background.

Blur

The averaging of pixel elements.

Brightness

An adjustment on the scanner that allows the user to compensate for a light or dark original.

Calibration

The adjustment of equipment so that it performs according to established standards. The calibration of a scanner aims to minimize the colour deviation between the scanned IT8 reference colour chart and the known colour reference values.

CALS

Computer-aided Acquisition and Logistics Support. This is a U.S. Defense Department and industry initiative that addresses the design, manufacture, and support issues in the generation, access, management, and use of technical data in digital form.

CCD

Charged coupled device, which acts as the image sensor in the scanner that converts light to voltages. The scanner then converts these voltages into a digital file representing the image.

CCITT Group 3

Standard run-length compression format used with FAX transmissions. It uses modified Huffman encoding to compress even further the run-length numbers. Most scanner file formats are variations of this format.

CCITT Group 4

Two-dimensional compression format, which gives very compact image files. Standardized by CALS (MIL 28002) and ISO-ODA for Drawing Archival and interchange.

CIE

Centre Internationale d'Eclairage. An international organization that establishes methods for measuring colour. These colour standards for colourimetric measurements are internationally accepted specifications that define colour values mathematically. The first colour space model, CIE XYZ (developed in 1931), defines colour as a combination of three values on the X, Y, Z axes. Two other colour spaces were defined in 1978: CIE LAB and CIE LUV. The aim was to provide an accurate and uniform reference of visual perception.

CIE LAB

A device independent colour space specified by CIE, used in modern colour management software to facilitate conversion of data from a scanner to a graphic display, or from a display to an output device.

CMY(K)

The three subtractive printing colours: cyan, magenta, yellow (and black). Theoretically, only three components (CMY) are necessary for subtractive synthesis. Black was added for practical reasons.

Colour

The electromagnetic energy existing in the form of wavelengths creates the perception of colour. There is a huge difference between the visible spectrum and the colours that can be reproduced on a screen and then printed from a colour printer. The total number of colours that a device can produce is called its colour gamut. The visible spectrum is larger than the colour gamut of a colour monitor, which in turn is larger than the gamut of a printer. No system can reproduce all the colours visible to the human eye.

Colour bit depth

The simplest pixel has two possibilities: black or white. A pixel with two possibilities is called a 1-bit image, or two raised to the power of one. Adding

more bit information increases the number of colour options. The number of potential colour options for a pixel is called colour bit depth. For example, a 4-bit pixel would have 16 colour options, and an 8-bit pixel would have 256 colour options, while a 24-bit pixel would have 16.7 million options.

Colour cast

A colour cast is typically due to non-uniform dot gain between the printing inks. Non-uniform dot gains can be due to different factors, such as the order in which the inks print or the specific properties of the inks. For example, cyan ink, which often prints first, tends to have higher dot gain values than other process inks.

Colour correction

Correcting for, and eliminating an unwanted colour cast.

Colour management system (CMS)

The software that increases the accuracy of colour interchange between scanners, displays, and printers, based on profiles for each device. It performs the colour transformations necessary to exchange accurate colour information between the different devices. These device-specific profiles are standardized by the International Colour Consortium (ICC).



Colour separation

The conversion of an RGB colour image into a CMYK colour image. Colour separation is a technical function during which critical settings such as GCR, black ink limit and total ink limit are applied to the image.

Colour space

A particular method used to describe colour. Examples of colour spaces are: RGB, CMYK, HSV, CIE LAB.

Compression

Reduction of image file sizes by encoding the data (see also runlength, CCIT)

Contrast

The range between the light and dark in an image. Good contrast is important in order for an image to appear realistic.

Density

The light stopping ability of a film. Density is inversely proportional to the amount of light reflected or transmitted by an image.

Density units

Photographers and printers measure transmission in base-10 logarithmic density units, where transmission of unity corresponds to a density of 0, transmission of 0.1 corresponds to a density of 1, transmission of 0.01 corresponds to a density of 2 and so on.

Device dependent colour space

In a device dependent colour space, such as RGB, the same scanned image will appear differently when viewed on different graphic displays.

Device independent colour space

A device independent colour space, such as CIE LAB, uses absolute colour values as defined by CIE standards. CIE LAB is widely used in colour management systems to translate between different device dependent colour spaces such as an RGB scanner and an RGB graphic display.

Device profile



Used in colour management systems, a device profile contains information about the characteristics of a scanner, computer graphic display, or printer. The format for device profiles are standardized by the International Colour Consortium.

Display

The monitor or graphic display attached to the computer.

Dpi

An expression of resolution of a scanned image, in dots per inch, equivalent to pixels per inch.

Dsp

Digital Signal Processor, which performs image enhancement in real-time while scanning.

Dynamic range

A measurement of scanner quality as the density difference between highlights and shadows.

Equalizing

Distributing all colours or tones equally along a density range.

Foreground

When scanning raster data (black and white, or monochrome), foreground refers to the pixels that represent data of interest. Typically, lines and shapes

are represented by black pixels (foreground), and empty space is represented by white pixels (background).

Gamma

An adjustment that makes the tone distribution lighter or darker in an image.

Gamut

The colour range that can be scanned, printed, or displayed by a device.

Gamut transformation (or gamut mapping)

A colour management system function, where out-of-gamut colours are converted to colours within the gamut of the targeted device.

GCR

Gray component replacement. A colour separation process used for colour photographs where cyan, magenta, and yellow inks are replaced by black ink, in a proportion that yields a gray value. The advantages are a reduction in overall ink usage and some increase in image detail.

Gray balance adjustment

A colour correction to ensure that gray elements within a scanned image appear as a neutral grey. When properly achieved, it is possible that other elements within the image will have a true colour reproduction.

Halftoning

The processes of offset printing and laser printing are intrinsically bilevel. However, these devices can reproduce a range of tone levels by halftoning. This means that an array of widely spaced dots produces the perception of light gray, and an array of tightly spaced dots produces dark gray. Halftone dots are usually placed in a regular grid. In colour printing, it is conventional to use

cyan, magenta, yellow, and black grids that have exactly the same dot pitch but different carefully-chosen screen angles.

Histogram

A bar graph representing the statistical distribution of graytones or colours in an image. Each column represents the number of pixels at that gray level or colour.

HLS

A colour space with three components of hue, lightness, and saturation. See also HSV.

HSV

A colour space with three components of hue, saturation, and value. Hue means colour (as in the colour wheel). Saturation is an indication relating to the richness or vibrancy of the colour. Value is a term best related to the intensity of light illuminating an object.

Hue

A measurement of colour by pointing towards a certain colour on the colour wheel. Hue indicates the relative redness, blueness, greenness, etc. of a colour.

ICC

International Colour Consortium, formed to address the need for a common colour framework. The ICC has developed a standard device profile that contains information about how various devices render colour.

Indexed colour

Indexed colour is the provision of a relatively small number of discrete colours (for example 256) in a colour map or palette. For each pixel in the image, the

index number of a colour is recorded. When retrieving the image, a lookup table uses the index to retrieve red, green, and blue components that are then sent to the display. In graphic file formats such as PCX or TIFF, an indexed colour image is accompanied by its colour map.

Ink jet colour printer/plotter

Inkjet devices transfer colour to paper by squirting cyan, magenta, yellow, and black ink onto the paper. The ink dries on the paper through evaporation.

Interpolation

A method of re-sampling to generate values for points between the actual pixels by looking at the surrounding colours or intensities. In a scanner, resolution is increased beyond the actual number of CCD cells. As each line of data arrives from the cameras, newly interpolated pixels are added between the original pixels to enhance line edge definition.

JPEG compression

Joint Photographic Experts Group compression. A method to save storage space by compressing files. JPEG achieves a high degree of compression by discarding unimportant picture details (lossy compression).

Lossless compression

File compression and subsequent de-compression without any loss of data.

Lossy compression

High-degree file compression and subsequent de-compression with some loss of data

LZW

Method of lossless compression used with many file formats, developed by Lempel, Zev, and Welch.

Monochrome

Files composed of a single colour.

Neutral

An area of no colour, such as white, gray, or black.

Noise

A term used to describe the occurrence of pixels within an image that contain random colours.

Palette

The set of colours available for an image.

Pixel (picture element)

The word pixel is a combination of two words, picture and element, which is the smallest building block within a scanned line-art or photographic image. A pixel is the small square picture element that is filled with a colour, black or white.

Printable colour

A colour that falls within the gamut of a particular device. The output of a printable colour will be similar to the input, whereas a colour that falls outside of the gamut will print as a different shade. See also Gamut.

Resolution

Defines the level of detail that can be captured or viewed by a scanner, display, or other output device. For scanners, the resolution is defined by the number of dots (pixels) per inch (dpi) that can be captured horizontally and vertically. For example, 300 dpi resolution equals 90000 pixels per square inch.

RGB

Red, green, blue. These additive primary colours are the basic elements of white light. By mixing them on a computer monitor or in a scanned image file, other colours can be created.

RIP

Raster image processor. A RIP is a special software that converts image files into a colour dithered (halftone) image that can be output directly. An image must be 'ripped' before it can be reproduced on a CMYK device such as an inkjet plotter.

Runlength encoding

A method of compressing raster or bitmap data by representing runs of white or black dots along a scanned line as the number of dots in each run. Many variations exist of this scheme, with varying compression efficiency. Typically runlength compression formats yield a file that is about 20% to 25% of the size of an uncompressed file.

Saturation

One of the attributes of colour in the HSV colour space (hue, saturation, and value). Saturation is a characteristic indicating the vibrancy or purity of a hue. A colour with high saturation will appear more intense than the same colour with less saturation.

Scanning

The process of running a hard copy original through an optical scanner. The scanner produces a digital image (raster image) of the hard copy drawing, which is then stored on a disk.

SCSI

Small Computer System Interface specification of interface with computer equipment equipment like disks, printers, scanners, etc.

Shadow detail

The amount of detail contained in the dark parts of an image. Although it is good to maintain shadow detail, there is a risk of decreasing overall contrast if the shadow is lightened too much in an attempt to expose additional detail. If an image is scanned without shadow detail, it is not possible to regain detail afterwards by using an image editing program.

Stitching

In large format multiple CCD camera scanners, electronic stitching adjusts for the overlap in the field of view of adjacent cameras. Automatic stitching at the start of the scan ensures that each camera captures the correct number of pixels independently of mechanical and thermal changes.

Subtractive colours

Cyan, magenta, and yellow. As ink is applied to a piece of paper by a printer, these colours absorb light and alter the colours visible by looking at the paper. Cyan absorbs the red third of the spectrum, magenta absorbs the green third, and yellow absorbs the blue third. Theoretically, what is visible should be black, but due to unavoidable impurities in the inks, light is still reflected and a muddy brown is visible. The absence of CMY pigments results in white.

TIFF file format

Tagged Image File Format. One of the most common graphic file formats for line-art and photographich images.

Tonal distribution

The distribution of various bright or dark tones within an image. During the scanning or editing process, tones can be redistributed to lighten a dark image or darken a light image.

Tone

Any colour or neutral that is denser than white.

Tone compression

A term used in scanning and image editing that refers to the compression of a broad range of tones and colours in an image down to a narrower range available on a printer.

Tone curves

The shape of the tone transfer curves can be adjusted by the user to alter colour or tone correction. The lower left end of the curve typically represents the dark portions of a picture and an upward bend will typically lighten the shadows. Similar functions exist when working with the middle or highlight parts of the curve. In this way you can alter only certain tonal ranges of an image without making unwanted changes to other parts of the image.

True colour

True colour systems provide eight bits for each of the red, green, and blue components. Therefore, true colour is often referred to as 24-bit colour.

TWAIN

Standard for interfacing (typically) small format colour scanners.

UCR

Under Colour Removal. A colour separation process used on colour photographs where cyan, magenta, and yellow inks are removed from dark, neutral areas and substituted with black ink. The advantages are a reduction in overall ink usage.

Vector file

Also called a vector drawing. A method that consists of mathematically defined elements that is widely used in computer aided design for its accuracy, relatively low memory requirements and file sizes compared to raster images.

Vectorization

Also called raster to vector conversion (RTV). This process automatically converts a raster (bitmap) image into a vector (CAD) drawing.

Video card

Expansion card installed inside the computer. Different types of video cards support varying monitor sizes and the number of displayable colours.

Viewing conditions

Different light sources affect the colours that you see. For instance, a colour viewed under fluorescent light will look radically different when viewed under incandescent light. Fluorescent light adds green to colours while incandescent light adds red. For this reason, the printing industry developed a standard viewing condition known as the D50 (5000 Kelvin) light source in addition to a neutral gray background. This light source duplicates daylight with equal parts of red, green, and blue.

White point

An adjustment to determine the amount of highlight detail in an image. The white point should be set so that the lightest part of an image will have just zero detail.

Zoom

Changing the size of the viewing area, to see a larger or smaller area in greater detail.

Appendix B

Printer configuration under TCP/IP



Configuring the printer under TCP/IP

To increase printing performance, it is recommended that you use a print server instead of a parallel port connection. To do this, configure your printer devices under TCP/IP using the 'Xconnect 100' server.

You will need the following:

- a network adapter, with a 100 mbps UTP connection (such as 3COM 3c905)
- a twisted pair cable (cross over patch cable)
- XCD Xconnect 100 server (XCD Pony 100 is an alternative)

Note: *The following procedures apply to a stand-alone solution, without a network connection. In a network environment, consult your system administrator for the configuration and IP address.*

▼ To install the print server

- 1 Install the network adapter and the network driver software.
- 2 Enter the TCP/IP address (e. g. 192.168.1.1) in Windows NT.
- 3 Attach the Xconnect 100 server to the parallel port of the printer.
- 4 Using the twisted pair cable, connect the Xconnect 100 server to the network adapter.

▼ To enter the print server address

- 1 Link the set IP address (e. g. 192.168.1.1) to the Ethernet address noted on the print server, using the 'ARP' command in DOS.

Note: *You can only set the IP address using the 'ARP' command once for new devices. Therefore, remember to note the IP address you've entered.*

- 2 Open a DOS window.
- 3 Enter the following command:
`ARP-s<IP address><Ethernet address>`
(Example: `ARP-s192.168.1.200-40-17-00-c3-e4`)
- 4 To test the IP address set for the print server, use the 'ping' command:
`ping <IP address>` (Example: `ping 192.168.1.2`)

▼ To configure the print server using Telnet

- 1 In the DOS window, enter the following command:
`TELNET<IP address>` (Example: `TELNET 192.168.1.2`)
- 2 Enter the standard password 'ACCESS' and an arbitrary user name to connect to the print server. Then the configuration for the IP connection follows.

- 3 Enter the following command:
SET IP Address<IP address>
Example:
SET IP Address 192.168.1.2
SET IP Subnet 255.255.255.0
- 4 Use the 'Show IP' command to check the IP settings. Note the number shown under TCP port (e. g. 9100).



To configure the parallel port

- 1 In the DOS window, enter the following commands:
SET Port P1 ECP ENable
SET Port P1 ACKH ENable
SET Port P1 FSTB ENable
SET Port P1 BDir ENable
SET Port P1 NBUF ENable
- 2 Check the parallel port settings with the 'Show Port' command.
- 3 When all settings are correct, the following line appears:
BID FSTB ECP NBUF
- 4 Deactivate the two protocols 'Appletalk' and 'Netware':
SET NETware Disable
SET Appletalk Disable
- 5 Check the settings:
show NETware
Appletalk
- 6 Check that the queue for 'Service 1' is activated:
SET SERVICE 1 queue Enabled
- 7 Check the setting:
show SERVICE
If the settings are correct, a 'Q' for 'Service 1' displays in the column 'OPT'.
- 8 End the configuration:
Initialize
EXIT



To configure the printer device

- Refer to 'Configuring the scanner and the printer' on page 15.

Appendix C

The spooling subsystem



Working with the spooling subsystem

The spooling subsystem serves as an output system only, and offers the option to work even faster and more effectively with Océ Colour Copy. The scanned data is placed in a common poll directory. The subsystem will poll the scan data from the poll directory and process the print jobs in sequence.

Installing the spooling subsystem

1 Installation of the Hardlock

Attach the hardlock to the parallel port (LPT1) of your computer. Make sure that the arrow on the hardlock is pointing to-wards the PC port. If a printer is already attached to the parallel port, you can place the hardlock between the PC port and the printer cable.

2 Installation of the Software

If you are working with Windows NT operating system, you have to log in as an administrator before installing the subsystem. Exit all other applications and insert the Océ Colour Copy CD into the CD-ROM drive. If "Autostart" is activated in your operating system, the installation program is started automatically. If the Autostart function was deactivated, click on Start / Settings / Control Panel and then on Software, menu button Install. When using the Standard installation of Océ Colour Copy, the subsystem is automatically installed as well. When the installation is finished you will find an icon to start the subsystem on your desktop.

3 Configuration of the Subsystem

Start the subsystem using the program icon on the desktop and click on Configuration / Configuration. In the window Setup under Poll directory enter the path for the common poll directory or accept the suggested path. Both systems must have user rights for the poll directory! Then, as usual, install the printer type that is connected to your subsystem. Under Connection activate the corresponding port (e.g. SCSI, TCP/IP or LPT1).

4 Configuration of the Océ Colour Copy System

With the menu item Configuration / Hardware install the printer that is connected to the subsystem. Under Connection activate the button Output system and enter the path for the poll directory in the adjacent empty field. If you choose the installed printer for the subsystem in Océ Colour Copy's main window, all copies are automatically placed as print jobs in the common poll directory. If the poll directory does not exist yet, it will automatically be opened by the program with the first copy that is to be saved.

Job Processing

Start the subsystem and switch on the printer. Once print jobs are placed in the poll directory by your Océ Colour Copy system, they will successively be processed and printed by the subsystem. All settings such as Count, Scaling, Output options etc. are set by the Océ Colour Copy system when creating the jobs. Using the menu bar or the menu fields processing the jobs can be interrupted or restarted. You can change the output priority of individual jobs using the arrow keys. Processing the jobs can be stopped using the Esc key.

In the subsystem interrupted or failed copy jobs are displayed in the lower part of the window. These failed copy jobs can be sent to the printer once again using the menu field Restart job.

Appendix D

Miscellaneous



How to read this manual

The consistent style that is used in this manual enables you to quickly become familiar with the use of this manual and ultimately the Océ Colour Copy 5.0.

Description Each section or subsection contains a description of the feature or operation identified in the title. It might also include possible applications, as well as any guidelines that you should bear in mind.

Procedures A description is followed by a procedure. A procedure always begins with a phrase which briefly describes the procedure, followed by a series of numbered steps that take you, step by step, through all phases of performing the operation.

Figures and tables Figures and tables are titled and numbered sequentially throughout this manual. Figures include pictures of product components, screen dumps, examples, and diagrams of concepts discussed in the description.

Attention getters There are several types of information to which we draw your attention. This information is classified as follows:

Note: *In a 'Note', information is given about matters which ensure the proper functioning of the machine or application, but useful advice concerning its operation may also be given.*

Attention: *The information that follows 'Attention' is given to avoid damage to your copy or original, the copier or printer, data files, etc.*

User survey

Did you find this manual to be accurate?

- ☐ Yes
- ☐ No

Were you able to operate the product after reading this manual?

- ☐ Yes
- ☐ No

Does this manual provide adequate background information?

- ☐ Yes
- ☐ No

Is the format of this manual convenient in size, easy to read and layed out well?

- ☐ Yes
- ☐ No

Did you find the information you were looking for?

- ☐ Always
- ☐ Most of the times
- ☐ Sometimes
- ☐ Not at all

How did you find the information you were looking for?

- ☐ Table of contents
- ☐ Index
- ☐ Neither

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